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AUTHOR Anastasiow, Nicholas J., Ed.; And Others
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ABSTRACT

This booklet describes the development and implementation of a curriculum designed to educate junior high school students in the care of infants and young children. The basic premise of Facilitative Environments Encouraging Development (FEED) is that the adoption of facilitative child-rearing techniques will reduce the handicapping conditions found among children of teenagers. With the increase in child-bearing among teenage and pre-teenage mothers, there has been an increase of high risk children, e.g., underweight, premature infants, who need proper care in order to overcome their handicaps. The FEED curriculum involves classroom and field study, including experience with both developmentally normal and handicapped preschool children, and familiarization with hospitals and child health care techniques. FEED students, tested through evaluative instruments described in the text, have shown more positive attitudes toward all children, and a greater knowledge of child development, than students not participating in the program. Additionally, they hold more positive attitudes toward hospitals. Finally, these students have demonstrated enhanced self-perception as a result of their training which focused on individual attitudes and capabilities. Technical details (such as expenses, staffing, and transportation), as well as program-planning and later evaluation are also presented. (Author/GC)

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FACILITATIVE ENVIRONMENTS ENCOURAGING DEVELOPMENT

PREVENTING TOMORROW'S HANDICAPPED CHILD TODAY

(A Middle School Child Development Curriculum)

Nicholas J. Anastasiow, Editor

with:
Patricia J. Eggleston
Everett W. Strawhun
Thomas E. O'Shaughnessy
Dennis N. Jackson
Susan J. Eklund
Jerry L. Brown
Arthur H. Stengel

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Facilitative Environments Encouraging Development

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For: Jane DeWeerd and Gerald Boyd for their belief in the idea and their continuous encouragement.

Institute for Child Study
10th & ByPass 46
Bloomington, Indiana 47401
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FEED PROJECT STAFF - INSTITUTE FOR CHILD STUDY:

Nicholas J. Anastasiow, Ph.D.
Patricia J. Eggleston, Ph.D.
Susan J. Eklund, Ph.D.
Dennis N. Jackson, M.A.
Thomas E. O'Shaughnessy, M.A.
Everett W. Strawhun, M.S.

Debora'i Bowers, Secretary
Cynthia Isaac, M.S., Editor
Diane Richie, Typist
Julie Romero, M.S., Assistant
Arthur Stengel, M.S., Assistant
Jeri Wood, Administrative Assistant

FEED SITE LOCATIONS:

New York, New York
Gary, Indiana
Bloomington, Indiana
Owensboro, Kentucky
Rockford, Illinois

U. S. OFFICE OF EDUCATION
BUREAU OF EDUCATION FOR THE HANDICAPPED:

Dr. Gary McDaniels, Director, Division of Innovation and Development
Dr. Paul R. Ackerman, Chief, Program Development Branch
Dr. Ed Sontag, Acting Chief, Program Development Branch
Dr. Gerald Boyd, Project Officer
Ms. Shiela Friedman, Program Specialist
Ms. Jane DeWeerd, Program Coordinator, Early Childhood Program
Dr. William Swan, Program Specialist

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Media Marketing, Inc.
Arlington, Virginia

Chapter I

THE NEED AND THE POTENTIAL SOLUTION

Nicholas J. Anastasiow

In each period of time in history
some events conspire against the realization
of the goals that emerge concurrently.

Introduction

For the past three years members of the Institute for Child Study at Indiana University have been engaged in the development, field trial and implementation of an innovative program called FEED (Facilitative Environments Encouraging Development). FEED is a middle-grade (7-8 grade) curriculum experience that focuses on assisting young people learn before they become parents about child growth and development of infants and preschoolers. The program includes both in-school and out-of-school practicum settings where young people encounter direct experiences with normal and handicapped infants and preschoolers, and with doctors, nurses, aides, teachers, and assorted personnel. The program was designed to teach young people that infants are much more competent at birth than most people believe and that the quality of the care provided during the first days and months of the infant's life do much to either facilitate or hamper the child's development.

The basic premise of the FEED program is that data are available to indicate that the quality of the caregiver's care can offset all or most of the negative effects of low-birth-weight and prematurity. Low birth-weight and prematurity are frequent events in teenage pregnancies and are the two most associated conditions of physical, emotional and intellectual impairments of young children. Thus, unless young people (10-18 year-olds) learn how to care for infants, there is a strong likelihood that many of the large population of infants born to 10-16 year-old girls will not over-

come the negative effects of prematurity and low birth-weight.

In the following pages evidence will be offered as to the importance of the first 18 months of the child's life, data that indicate the effect of facilitating child rearing techniques, information documenting the powerful social and physiological changes that have led to the dramatic increase in births to young girls 10-16 years of age. After the essential argument has been presented of why such a project as FEED is needed, a description of how the program operates will be presented along with a description of the available guides used to implement the program. Finally, evaluation data will be presented to demonstrate the project's effectiveness in changing attitudes of 7-8 graders in a positive direction toward normal and handicapped children, toward hospitals and health care services, and toward adults.

The Dramatic Physiological Shift

Since 1900 the age of menarche in young girls has dropped about four months per decade. The mean age of menarche for girls in the United States in 1900 was 14.2 and in 1960 about 12.8 (Tanner, 1968). Today it is estimated that the mean age is 12.5 (Cutright, 1972) or 11.8 (Eskin, 1977).

Why the drop in the mean age is not entirely clear. Some authors speculate the weight increase and increased protein in the diet of girls may influence earlier menarche (Cutright, 1972). Regardless, age of first menses has shown a major drop in every country where records are being kept.

The fact that the mean age is near 12 years indicates that the range of age of first menses is from 8 years of age to 16 plus years. Onset of menarche does not mean that the young girl is capable of conceiving a child. Ovulation usually occurs two years following age of menarche (Cutright, 1971, 1972). Interestingly, similar data are available for boys and their part in conception. The average age of initial nocturnal emission of

semen in boys is now estimated to be 12.2 years of age (Eskin, 1977). Thus, both sexes are physiologically capable of conceiving children at very young ages. The fact that they do so is the next part of the mosaic.

Societal Changes

Using Kinsey, Pomeroy, Martin, and Gebhard's (1953) data, a straight line of steady increase can be drawn in the percentage of young people experiencing coitus (Cutwright, 1971). These percentages vary widely but estimates state that 64-93 percent of boys experience coitus by age 18 and 32-68 percent of girls by age 18 (Diepold, 1976). Inner-city precentages are uniformly higher than rural populations for all races and ethnic groups studied. These trends are continuing with the most recent report indicating that between 1971 and 1976 a thirty-percent increase was made by girls under 19 (Zelnik & Kantner, 1977). The averages Zelnik and Kantner report are that 55 percent of young women experience coitus by age nineteen. Inner-city populations may run as high as 84 percent for girls who experience coitus before 18 and 94 percent for boys.

Considering the social and physiological changes, young people tend to engage in sexual practices to a far greater degree than did their parents and grandparents and are more likely to be fertile when they do so. The young women's first partner tends to be a teenager like herself and importantly, neither person tends to use contraceptives before the first pregnancy (Zelnik & Kantner, 1977). Thus, the physiological and societal changes have joined together to produce a climate in which a large number of young girls may become pregnant. This is exactly what is happening.

Increased Teenage (10-18 year-olds) Pregnancies

The number of teenage pregnancies is undergoing a dramatic increase. The number of live births to 16-to-17 year-olds increased 25 percent between 1960 and 1973 from 163,000 to 204,000. Births to young girls under sixteen increased 80 percent from 26,000 to 48,000 during the same

period (Stickle & Ma, 1975). These figures are for live births. The tota number of pregnancies is in excess of 500,000, some of which end in abortion, others in death. It is estimated there are over 300,000 teenagers who have abortions each year (Furstenberg, 1976). If the 18-19 year-old group is included, an additional 400,000 births push total teenage pregnan cies to over one million.

Infant mortality for the 16-and-under group is twice as high as the 2 to 34 year-old group and mother mortality of the under-15 year-old group is 46.7 per 100,000 live births (Stickle & Ma, 1975).

The number of negative conditions associated with teenage pregnancies besides infant and maternal mortality is well documented and includes: hypertension, toxemia, postpartum infections, hemorrhages, and prolonged and precipitated labor (NINDB, 1967; Stickle & Ma, 1975; Zackler & Brandstadt, 1975). However, one major fact overrides all the other factors and that is the tendency of teenage pregnancies to end in prematurity and to produce a low birth-weight child. These infants, if they survive, tend to suffer perinatal stress, the condition most highly associated with phys cal, emotional and intellectual impairments.

High-Risk Mother and High-Risk Infant

Mothers who live in lower socioeconomic conditions tend to come from families where mal- or under-nutrition has been a way of life for more than one generation, where marital problems are common, and where separation, desertion and divorce are frequent (Wallace, 1970). Further, although mothers from poverty homes may have been born in hospitals, this may represent the only medical care they have received in their lives othe than school administered innoculations (Coles, 1971, Vol. II). These girl tend to have their first baby early in life (10-15 years of age), produce more babies (8-10) than the average woman, and continue to have children beyond the normal child-bearing age (35-40). Data show that there are muc

higher incidences of handicaps and infant deaths among both very young mothers and very old mothers. Since women who live in poverty usually have more children over a longer period of their lives than middle-class women, the same mother will often bear children when she is young and old (Birch & Gussow, 1970). The data of the births of these mothers can be described by a typical U-shape curve which contains at each end a larger number of infant mortality and morbidity statistics. There is an excessive number of non-white infant mortalities which reflects the "wide spread and often profound poverty which exists among them" (p. 25). The rate is 41.5 percent for the Black group and 56.2 percent for the Native American group.

Birch and Gussow describe the high-risk mother and high-risk infant as follows:

> The differences are profound and prolonged. Mothers of such children tend to be less well fed, less well grown, and less well cared for before they reach childbearing age. When they reach it, they begin to bear children younger, more rapidly, and more often, and they continue to bear them to an older age. When such a mother is pregnant both her nutrition and her health will tend to be poorer than that of a woman who is better off, but she will be far less likely to get prenatal care and far more likely to be delivered under substandard conditions.
>
> Children of such mothers are smaller at birth, die more readily, and are generally in poorer condition in infancy than are children born to the more affluent. If they survive the first month of life, their mortalities thereafter are excessively high and their illnesses more frequent, more persistent, and more severe. Their nutrition is negatively influenced by their mother's health, her age, her income level, her education, her habits and attitudes, so that among such children in the preschool years frank malnutrition, as well as subclinical manifestations of depressed nutritional status (reflected in anemia and poor growth), are markedly more prevalent. During the school years they eat irregularly, their health care continues to be almost totally inadequate, their housing is substandard, their family income is low, subsistence on public assistance is high, and family disorganization commonplace. (p. 266)

In short then, a high-risk infant is the product of a high-risk mother. The data suggests that the high-risk infant (usually described as suffering perinatal stress) is usually a child who has difficulty in school (Werner, Bierman, & French, 1971). The New York City data suggests that 38 percent

of Puerto Rican and 73 percent of the Black families are high risk. These young women tend to receive prenatal care later, have fewer prenatal check-ups, and tend not to be delivered privately (Stickle & Ma, 1975). Thus, Lilienfeld and Pasamanick (1956) have written that "the pattern of maternal and fetal factors that appear to be associated with mental defect is similar to that previously found to be associated with stillbirths, neonatal deaths, cerebral palsy, epilepsy, and childhood behavior disorders." (p. 567)

Offsetting Perinatal Stress

Physicians have been concerned with perinatal (20 week fetus to under twenty-eight days old) stress effects on infants for generations (Neligan, Prudham, Derek, & Steiner, 1974). The major concern was why some children seemed to outgrow the stress conditions while other infants progressively declined with many becoming classified as mentally retarded, emotionally disturbed, or learning disabled by the time they reached school age. To look more closely at this problem, three separate longitudinal studies were conducted in the United States and England (Broman, Nichols, & Kennedy, 1975; Neligan et al., 1974; Werner et al., 1971). Each study measured a host of physiological variables and some social factors of mothers as soon as they made their pregnancy known.

Werner's study of Kauai is representative of the three and in some respects offers a richer setting due to the multi-ethnic and racial composition of her population. In her report, Children of Kauai, she followed and monitored the mother's pregnancy to the child's twelfth birthday and found that the best predictor of a child's IQ at age 2 and 10 was the quality of the mother's care. The collaborative study (Broman et al., 1975) and the English study (Neligan et al., 1974) also found the mother variables to be the best predictor of the child's IQ. The most lethal of child birth conditions (anoxia and breech birth) were considered minor compared to the

negative effects of mother's child-care techniques (Broman et al., 1975).

Restatement of the Problem

Teenagers are now physiologically mature earlier than ever before and can conceive at earlier ages. These same teenagers are experiencing coitus in greater numbers and at earlier ages. The two factors have resulted in a dramatic increase in teenage pregnancies. The rate of low birth-weight premature infants born to young mothers is very high and many of these infants who survive suffer perinatal stress. Contrary to former beliefs, perinatal stress conditions can be overcome by facilitative child-rearing practices. It is the mastery of these practices by middle-grade students, before they become parents, that is the intent of the FEED program.

Facilitating Development

Werner et al. (1971) found that in most cases children who overcame perinatal stress had mothers who tended to use high verbal interaction, accepted their child's need for emotional support, and encouraged achievement of development. In contrast, the reverse was also the case: caregivers who used unfavorable techniques had children who experienced a great deal of trouble.

Her four groups are of particular note:

"Group 1: the children without perinatal stress who grew up in homes rated favorable in environmental stimulation and emotional support, had 10-year IQs in the superior (128) to average (101) range. No child had achievement problems in school, and all except one had gained IQ points since the two-year follow-up -- an average gain of 13 points, with a range from 2 to 28 points.

"Group 2: the children who had suffered severe perinatal stress but grew up in homes rated favorable in educational stimulation and emotional support, had 10-year IQs ranging from 125 to 96, from the superior to the average range. One-fourth of these children had some achievement problems, but the overwhelming majority functioned adequately in school. One sixth had significant physical problems. All children on whom Cattell test scores were available had gained an average of 13 IQ points, an increase simi-

lar to the group without perinatal stress which was exposed to a favorable environment.

Group 3: the children without perinatal complications who grew up in homes rated unfavorable in educational stimulation and emotional support, had 10-year IQs ranging from 123 to 70. More than half of these children had IQs below 85, in the "slow learner" or "educable mentally retarded" range. Intelligence quotient point changes from two to 10 years were erratic, ranging from +37 to -20, the children in this group had serious achievement problems in school, four-fifths also had behavior problems. Nearly two-thirds of the children had verbal subtest scores significantly lower than performance test scores, indicating a serious language disability. Only two children had significant physical defects.

Group 4: the children who had suffered severe perinatal stress and also grew up in homes rated unfavorable, had a very wide range of IQs at age 10, from 117 to 30. One-half of the children in this group were either "slow learners" or mentally retarded; four-fifths had serious achievement problems; one-fourth had serious behavior problems; and one-fourth had perceptual problems. All but three of the children who had Cattell test scores reported a loss in IQ points since the two-year follow-up. One-third had significant physical defects of the central nervous and the musculoskeletal systems." (pp. 80-81)

Thus, it is the premise of FEED that the adoption of child-rearing techniques that are facilitative will reduce handicapping conditions among children of teenagers. Contrarwise, the adoption of child-rearing techniques that hamper development will increase the number of handicapped children.

Given that these young people do not experience child development courses until late in their school careers, it appeared critical to the Institute for Child Study Staff that a course (set of experiences) be developed that provided young people with knowledge of child development, and experiences in working with normal and handicapped infants and with hospitals. The reason for the child development course should be self-evident. The underlying assumption of having experiences in a hospital was to break down young people's fears of hospitals so that should they find themselves in the position of becoming parents, they would seek out

the prenatal services hospitals offer.

The objectives for experiences with infants and children were many and well documented in the FEED Curriculum Guide. The most important was to learn that normal and handicapped infants are alive, responsive, needy individuals from birth and require adult emotional as well as physical support. Both normal and handicapped infants learn and respond to environmental events. It is the quality of love and care that makes the difference. The experiences of the FEED middle-grade youngsters make clear to them that what a 7th-8th grader does is important in the life of an infant. As a result both the infant and the middle-school student grow.

Program Development

The FEED staff spent the first two years in multiple activities. Films, books, slides, and filmstrips were reviewed and selected for inclusion in the curriculum library and summarized in the FEED Curriculum Guide. Chapter III describes the guide, its objectives, and how it is to be used. In conjunction with two experimental classes, one in Gary, Indiana and another in New York City, the materials and experiences were field tested. Students as well as staff evaluations of the materials and experiences were obtained.

Following the major effort on materials selection, a FEED Implementation Guide was developed and field tested. The intent was to develop a "portable" workshop set of materials so that other implementors can establish FEED programs through the use of the FEED Implementation Guide. Eggleston describes the material in Chapter III. During the third year of the project, FEED was operational in five locations: Gary and Bloomington, Indiana; Owensboro, Kentucky; Rockford, Illinois; and New York City, New York. In Chapter III, O'Shaughnessy and Jackson describe the ongoing operation of a typical FEED program.

During the course of the three years' evaluation, instruments were designed and field tested. Advice and feedback as to the program's operation were obtained from consultants, advisory board members and from the audiences of the more than 100 presentations delivered concerning FEED. In Chapter IV, Anastasiow and Strawhun report on the evaluation efforts of the project.

CHAPTER II

A PERSPECTIVE TOWARDS INFANT DEVELOPMENT AND CHILD CARE PRACTICES

Nicholas J. Anastasiow

Introduction

A set of fundamental beliefs about infants has changed in the last few years. Research has demonstrated that infants are more competent than was previously thought. The image of the baby as a helpless, dependent, non-learning being has been replaced by the image of a child that from the moment of birth is an active, alert, rapidly learning and developing organism.

It is crucial for young parents to recognize the capabilities of their infant; the way that parents respond to their child does much to facilitate or hamper the child's development. We will examine the infant's capabilities in the next section and will delineate those parent characteristics that facilitate or hamper growth.

Survival Skills

The infant is born with several survivor skills, the most notable being the ability to suck. The sucking response has been documented to appear before birth in some infants. In almost all cases the response is present at birth and becomes motivated in the presence of appropriate stimulation. The term "appropriate stimulation" is used to stress the fact that most genetic capacities of the human being become active only in the presence of a responsive environment. It there are no stimulations, the response or reflex tends to disappear. This generalization about the need of an appropriate environment becomes even more crucial for harder to observe capacities such as cognitive abilities related to thought.

Head Turning and Lifting

The normal infant can both raise and turn his head, talents we presume help keep the infant from smothering. Research psychologists have used both of these capacities to demonstrate that the infant can be taught (conditioned) to choose between colors or sounds in the first few hours and days of life. These studies will be discussed more fully below.

Thrashing

Unable to crawl or walk, an infant can stimulate circulation and maintain normal baby temperature through thrashing. Thrashing is a total body response and may be related to the rhythmic facilities of memory development and language.

The fact that infants have a capacity for memory and learning has been demonstrated through some unique studies. It has been shown that babies will modify their thrashing in response to human voices. In a careful analysis of photographs of babies thrashing, Condon and Sander (1974) showed that babies modify the rhythm of their thrashing to match the rhythm of a voice. Lipsitt (1967) found that if you tie a string from a baby's arm (or leg) to a mobile the baby will reduce his thrashing and move the part of his body that makes the mobile go. Some babies learn to do this as early as two months of age, most can by four months, and almost all normal babies can by seven. Thus, thrashing is also a means of making the environment work for you--move a mobile, rock a crib.

If three or four month-old babies are exposed to a mobile that does not move when they thrash or rock the crib, and later when they are seven-months old are introduced to mobiles that do move when they thrash, these babies either do not learn, or have a very difficult time learning, that the mobile will move. It appears that they remember their previous experience--their unsuccessful efforts to make the mobiles move.

Smiling

The reflex smile may be related to attracting adults to care for the child. The smile is a universal phenomenon which is a welcome sight to most adults and which tends to initiate their caregiving. Interestingly, blind babies smile, but this tends to stop as they get older, presumably because they cannot see their mothers' smile. The mothers of blind babies find this very distressing but can learn to notice other behaviors--for example, a child raising his arms in response to mother's voice.

Hearing

A child can hear at birth. How well is not exactly known, but well enough to detect the rhythm of speech and to discriminate between music and speech. By two months of age a child can discriminate between "b" and "d" and will choose to listen to a happy voice or voices of other infants in preference to an angry voice.

Seeing

Most infants see well enough at birth to detect light and dark colors. Some infants can detect shape differences. Most infants by two months can detect differences in shapes and rapidly develop a preference for more complex patterns.

Crying and Sleeping

Babies can communicate very early and will have some basic cries: anger cry, pain cry, gastronomic discomfort cry, frustration cry, and a faking or expressing-his-will cry. Each is distinctive and can be learned by parents.

Babies also sleep in different patterns: light, irregular, doze, deep, awake quiet, awake alert, awake active, and awake excited.

The Brain

The infant's brain is highly developed at birth. The brain operates as a survival mechanism in that it is capable of sensorimotor intelligence. The brain acts as a filtering mechanism for learning. The infant learns early which are important aspects of the environment and which are not. If there is any innate motivation, it is in the motivation for activity and finding out how things work. You can observe infants looking at lights, turning their heads towards sound, looking to where their mother looks while she speaks. The inference is that infants try to find out about the world into which they are born and need adults to verify their learning--particularly the names of things.

Generalizations About Infants

Infants are highly variable. All normal infants by seven-to-nine months of age move from "sensorimotor" intelligence to an intelligence influenced by language. Almost all infant measures given before seven-to nine months, do not predict IQ scores well. This is largely because IQ scores, to a great extent, are based on learning names for things and using language to demonstrate competence.

Infants for the most part master the first seven months in fits and starts. Some infants proceed very rapidly, some more slowly. There is a wide range of "normal" times for infant accomplishments. Only marked delays in physical development, for example, are indicators of mental retardation. Infant scales are excellent at identifying the very slow child but do not differentiate between the average and the fast child.

Habituation and Satiation

In a new area of investigation, psychologists have discovered a number of physiological responses that occur when a child is engaged in a perceptual activity. When infants hear a new sound, there tends to be a

heartbeat deceleration. Infants soon tire of the sound (habituate or satiate), and the heart beat returns to normal until another novel perceptive effect--usually more complex than the last--occurs. These experiments verify the infant's capacity for learning and memory.

Maturation

One rule of development is that all old behavior is used to develop new behaviors. New behaviors are dependent upon maturation of the central nervous system and the physiological state. For example, it is only around nine months that the area of the brain associated with walking matures; thus there is a relationship between the maturation of the brain and the occurrence of walking.

Another example in biological-environmental interaction is language development. The area of the brain associated with speech (usually the left hemisphere) is mature before birth for girls and after birth for boys. This localization of language does not fully mature until the girl is 5-6 years of age and for boys 6-7 years of age.

Although all babies babble at three months, it is after they are three months old, when the head is in proper relation to the throat, that they can control the production of their sounds.

In addition, babies need to hear speech to mimic. A baby who can't hear stops babbling. Babies first must be aware of what a thing is before they can learn the word for it. Thus, there is this progression in language production:

1. Hemispheres develop before birth (girls); shortly after birth (boys)
2. Head/throat position (three months-six months)
3. Babbling--triggering parent interaction (also cooing and comfort sounds)

4. Nonverbal communication established--touching, holding, response to crying, smiling

5. Experience with objects and baby's hypothesis to be verified by parent

6. Babbling-like language in home (six months)

7. Words (12 months)

8. Over 200 words based on actual experience (24 months).

All learning then, is an interaction among biological tendencies of the species plus maturation, plus experience, plus teaching (verifying the infant's hunches and guesses).

Facilitating Growth and Development

The most critical aspect of the infant at birth is that he is an affective system first, a cognitive system only secondarily. For most normal children, the manner in which they are treated has the greatest impact on personality (total) development.

The effects of caregiving of the early months are most strongly observed during the major transition period from seven to nine months. Great bursts of development are seen during this time in language, social skills, curiosity, and problem solving. Children begin to use toys appropriately (listening to telephone instead of banging telephone). They also understand full sentences although they may not speak (there is heart beat deceleration to "Give me the big ball" at nine months but not at seven).

Babies who arrive at this stage and pass onto later stages with success have caregivers who:

1. Show great deal of warmth and approval in interactions with the child.

2. Encourage the child to make gains appropriate to his age.

3. Enforce rules consistently and firmly, usually with reason or distraction and substitution.

4. Listen and try to respond to an infant's overtones.

5. Play with the child and engage the child in out-of-the-house activities (to the store, etc.).

Children whose growth appears to be hampered tend to have caregivers (regardless of social class) who:

1. Are critical of the child--shame, threaten, and use frequent physical punishment.

2. Seldom praise or caress the child.

3. Minimize interaction and communication with the child.

A recent major longitudinal study with over 50,000 mothers verified that the quality of mother's care is the most important variable in influencing children's IQ and school success. For even children who suffer stress before or after birth, the child-rearing practices of caregivers can offset all but genetic insult such as Down's or marked brain damage (Broman et al., 1975).

Achievement behavior results when the caregiver encourages age-appropriate behavior and praises it, thereby reinforcing it and encouraging the child to move on to the next level.

This does not mean a continuous barrage of stimulation is needed. The evidence indicates that good caregivers interact during relatively short times with an infant--feeding, bathing, and diapering. Later on as the child becomes mobile, the caregiver makes the house, to use White's (1975) terms, "childproof" and "house safe." That is, the child cannot damage something easily (the best porcelain ashtray) nor can the house hurt him (unguarded steps or a large planter that can be tipped over easily). These children play around, explore (usually in lower kitchen cupboards), and occasionally grunt for a hug, a cookie, or to verify something (noise of car, child says "Da-Da"). During these child-initiated activities the child who grows successfully has a caregiver who responds to him.

Methods parents use made a major difference; however, many subcultural groups across all social classes tend to hold attitudes that do not facilitate children's growth. These attitudes should be examined in a supportive environment that will allow the adult to modify them. The FEED project provides such a supportive environment and gives young adolescents the skills necessary to facilitate children's growth.

(This chapter appears in the FEED Implementation Guide and portions of it also appeared previously in UPDATE: The First Ten Years of Life, edited by Hanes, M. L., Gordon, I. J. and Breivogel, W. F., Gainesville, Florida: University of Florida, 1977.)

CHAPTER III

THE FEED IMPLEMENTATION AND FEED CURRICULUM GUIDES

Patricia J. Eggleston, Jerry L. Brown, and Arthur H. Stengel

> "You know when you really experience it, you don't forget it as quickly as you would if it was in a book."
>
> -- FEED Student

In generating the material that personnel would need to establish a FEED program, considerable thought was given to the following questions:

1. What is an effective way of designing a curriculum package that can be easily adapted to local community needs?
2. What types of content materials, practical experiences and teaching methods are needed to meet the program goals?
3. What kinds of information and skills are needed for the delivery of the program?

These questions were addressed through the development of two manuals--one is a FEED Implementation Guide for administrators setting up FEED programs and the other is a FEED Curriculum Guide for classroom teachers. Each of these guides will be discussed in turn in the sections that follow.

The FEED Implementation Guide

The guide is a multi-media resource which includes the printed guide, a slide/tape presentation and an audio cassette. No two FEED programs are to be exactly alike and the guide suggests specific suggestions for implementation as well as alternatives for solving the same problem. Most of the guidelines evolved from the experiences derived in the first two years of program development.

The printed section of the Implementation Guide is divided into several major sections. Each section of the guide will be discussed in turn and

samples from each section will be presented.

The first section is entitled The Groundwork and it provides suggestions for a step-by-step process for preliminary planning. It includes the following subsections:

A. Enlisting the Agencies

A successful FEED project needs four participating agencies: a school with a middle school (7-8 grade) class, a hospital and a preschool for handicapped children and a preschool for normal children. Suggestions include:

List possible participating agencies in your community.

1. A school with a middle grade, a hospital, and a preschool for the handicapped and for normal children are required for FEED, other child and health care agencies could also participate. For the mechanics of the cooperative project to work, the agencies must be within a reasonable distance of each other.

2. Approach the agencies and get a reading from them.

3. Inform people in the interested agencies with personal meetings, printed material, or a seminar.

4. Find professionals who will commit themselves to the FEED goals.

5. Keep good records. Getting approval for an innovative new program can be a long, detailed process. Keep a form on each agency with information such as the name of your contact person, the agency's potential for FEED involvement, and who must give final approval. Sample forms are included in the guide.

B. Considering Expenses

The second part of section one delineates possible program costs. Costs of FEED programs vary widely, but the following categories of expense are likely. Estimates are based on pilot programs in New York City, Gary,

and Bloomington, Indiana.

1. Transportation - average cost in the three pilot programs was about $1,600 per year, but one site had no transportation expenses at all.

2. Curriculum materials - minimum, medium, and maximum packages with costs for each item are outlined in the guide. Total curriculum costs per student per year are $16.41 for the minimum package, $24.99 for the medium, and $35.06 for the maximum.

3. Personnel costs - usually in the form of an honorarium for the teacher/coordinator. Estimates are from $500 to $1,000.

4. Training costs - primarily an orientation workshop for personnel. Possible expenses include materials, conference facilities, lodging and food, and assistance from an outside consultant. Estimates range from $500 to $1,000.

Summary of FEED Costs

Transportation	(Average annual per student cost on basis of present figures)	$25.00
Curriculum	(Medium package)	24.99
Personnel	(Based upon $750 per year and 50 students)	15.00
Training	(Based upon $750 programmed over five years and 250 students)	3.00
	Total	$67.99*

*The staff estimates that $50 is a more realistic figure here. Many of the pilot program expenses were unusually high.

C. Staffing

The third part of the section on Groundwork discusses staffing requirements.

1. Roles and responsibilities within the FEED program must be clearly assigned among teachers, administrators, and agency personnel. Few problems can cause as much difficulty as lack of clarity about who does (and is responsible for) what.

2. After FEED gets the approval of the school board and the boards of the agencies, the administrators initiating the program should select one interested person as project coordinator. The job is a complex one requiring a great deal of time and careful attention to detail. Training and experience in child care and development would be helpful. A home economics or family teacher would probably be well qualified.

D. Preliminary Program Planning

The fourth step in the Groundwork stage is preliminary program planning and includes the following suggestions:

When enough agencies are committed to the program, the budgeting is certain, and a coordinator is put in charge, preliminary program planning can begin. Specific formulas and organizational tasks are provided in the guide. Generally, interrelated questions like these must be considered:

1. How large will the FEED program be?
2. Where will it fit into the school curriculum?
3. Should all students be offered the program?
4. How will they be enrolled?
5. What levels of participation in each type of experience (Classroom, handicapped preschool, and hospital/health care) are educationally viable?
6. What curriculum materials should be used? (The FEED Curriculum Guide is your principal resource for actual curriculum planning.)
7. What kind of orientation for staff and students is necessary?

E. Transportation and Logistics Planning

The final task in the Groundwork section includes transportation and logistics planning. Program planners are assisted by the inclusion of a list of details to be considered.

These kinds of details must be considered:

1. Where will students go? How many sites are there? How far are they from the school?

2. When will students go? What times of day? How does this fit with the schedules of the school and the cooperating agencies? What days of the week?

3. How many days? For how many weeks?

4. How many students will go? To a particular site?

5. How will students rotate among sites? On what schedule?

6. How will students travel? Public transportation? School bus? Parents? What about insurance? How long will the trip take?

A "Weekly Log and Checklist of Activities" form (to be kept by each agency) is included in the guide and would help in scheduling.

In summary the first section of the FEED Implementation Guide deals specifically with those issues and problems that often cause excellent programs to fail. The inclusion of such an organizing guide may very well help these programs to succeed.

Section 2 of the guide deals effectively with another problem which often causes programs to fail. In these days of accountability, evidence of a program's impact is needed. Thus, this section is concerned with evaluation procedures.

Suggestions are given for two kinds of evaluation:

1. determining whether students enrolled in the FEED program are making progress

2. assessing the overall strengths and weaknesses of your FEED program.

Thirteen specially designed instruments are included along with information about how to use them.

Section 3 of the FEED Implementation Guide is devoted to the development of preservice and inservice workshops.

A detailed agenda for a three-day workshop, materials and reminder checklists, responsibility assignment sheets, and outlines of specific activities are provided in the guide.

Workshop Goals

1. To orient participants to FEED goals or objectives
2. To become familiar with each agency and the opportunities available at each
3. To develop a group cohesiveness
4. To plan the first month of the student curriculum
5. To consider administrative challenges and to work these out cooperatively
6. To plan for future FEED staff planning sessions

Workshop Content

I. Orientation to FEED
   - A. Objectives
   - B. Rationale
   - C. Overview of procedures

II. Understanding Child Development
   - A. Principles of "normal" child development
   - B. Needs of handicapped children
   - C. Needs of seventh-grade students

III. FEED Curriculum
   - A. Importance of practicum experience
   - B. Review of materials
   - C. Instructional strategies

IV. Role of Site Staff

A. Necessary tasks to install program

B. Team-building behaviors and attitudes

V. Role of Consulting Staff

A. Consultation on curriculum

B. Assistance in problem-solving

C. Evaluation

The appendix contains an illustrated script for "FEED: A Happy Feeling," a workshop mini-lecture entitled "The Fundamentals of Infant Development," organizational and curriculum-planning tasks for the workshops, a workshop evaluation form, and background articles on FEED and on early adolescence.

The slide/tape presentation was designed as an orientation program for those who know little about the FEED program. Reporting actual FEED experiences, it can be used with parents, school boards, school personnel, and other community agencies. The use of film and recorded thought effectively transmits the very essence of the FEED program -- its impact on individual participants.

The audio cassette recording the views of administrators has the effect of being individually spoken to when listening to it. The question raised and solution offered give the audience very specific advice on program implementation.

In summary, the multi-media package drawn as the Implementation Guide offers interested persons very specific and sound advice about starting a FEED program. But it goes further than that. It provides many of the necessary tools for carrying it out. The Implementation Guide was primarily designed for the use of school and agency administrators.

The FEED Curriculum Guide

The second manual, referred to as the FEED Curriculum Guide, was designed to be used by the middle school teachers, preschool staff people and hospital personnel who would be working directly with students.

In meeting the FEED program goals, four sets of experiences are listed in the manual as being a necessary part of the curriculum.

1 - 2. Preschool Center for Handicapped and Normal Children - actual experience with young children in a center which can provide positive modeling behavior and reinforcement for the student's interaction with young children is a requirement.

3. Hospital Pediatrics Ward - working on a hospital's children's ward gives the students an opportunity to interact with babies and toddlers, certainly an important experience in understanding child growth and development. Since it is often difficult to find enough spaces for students on these wards, other health facilities such as well-baby clinics are suggested.

4. Middle School Classrooms - the success of a FEED program depends largely on the ongoing activities that occur in the middle school classroom. The discussion, workshop, films and other materials help extend and clarify the student's understanding of young children.

Optimum student involvement and growth comes when all three of these units work closely together. The curriculum manual is designed to facilitate maximum involvement of students and staff in the development of the curriculum.

The FEED Curriculum Guide is a 350-page resource book for those planning to set up FEED programs in their own communities.

The guide is just that--a guide and not a prescription. The success of FEED in your community does not depend on how nearly your program matches a predetermined model but how well it works locally. Information

in the guide was designed to give you options, materials to choose from, and ideas to build on as you develop a unique FEED program.

The Author Speaks. Literally, on an audio tape inserted in the book's back cover, the 15-minute tape offers an interesting introduction to the guide.

The principal author, Dr. Pat Eggleston, stresses two key ideas which planners should remember as they outline a FEED curriculum. The first is the importance of students' attitudes--toward children, toward handicapped persons, toward themselves. Every learning activity that becomes a part of a FEED program should be directed toward developing positive, healthy attitudes.

Second is the importance of actual experience. The chance to work in child care centers and hospitals is central to FEED. It is one thing to diagram a hospital on the chalkboard for students, and quite another to offer them the opportunity to work there.

Dr. Eggleston also takes the reader on an informal "tour" of the FEED Curriculum Guide, explaining the purpose and content of each of the five sections.

The following digest of the FEED Curriculum Guide's five sections suggests its variety as a resource. Those who must plan their programs without benefit of the guide may find these synopses helpful.

Section 1 - Student Objectives

The thirty-three FEED student objectives are comprehensive but not conclusive. Planners might use all of them or might add or delete some depending on the characteristics of their local program. Objectives one, two, eight, and ten are at the heart of FEED and should be a part of any program.

The grid in the left margin indicates the emphasis each objective would receive in the classroom, the child care center, and the hospital.

The thirty-three objectives are condensed below.

■ Major emphasis

▨ Some emphasis

□ Little or no emphasis

FKED Student Objectives

Classroom	Practicum	Hospital	
■	▨	□	Objectives are to enable participating students to:
■	▨	□	1.* Specify general developmental patterns of children ages 0-5 a. physical b. social c. emotional d. cognitive e. language
■	▨	□	2.* Specify major handicapping conditions of young children who have or are a. physical handicaps b. cerebral palsy c. hard of hearing d. partially sighted/blind e. minimal brain dysfunction f. behavior disturbed/ emotionally disturbed g. speech or language impaired h. mentally handicapped i. multiple handicaps
■	▨	□	3. Specify similarities and differences between "normal" and "special needs" children.
▨	■	□	4. Describe the behavior of individual children with whom they are working.
▨	■	□	5. Specify and explain reasons for preschool regulations and routines.
■	▨	□	6. Explain the value of play for children, ages 0-5, in stimulating growth in the following areas: a. physical b. social c. emotional d. cognitive e. language
□	▨	□	7. Explain how play materials in the practicum setting aid in a child's development.
■	▨	□	8.* Explain how an adult can interact with a child to stimulate growth in the following areas: a. physical b. social c. emotional d. cognitive e. language

* Core curriculum objectives

Classroom	Practicum	Hospital	
■	▒	□	9. Specify inside and outside environments that stimulate growth in the following areas: a. physical b. social c. emotional d. cognitive e. language
▒	■	□	10.* Devise activities appropriate for the developmental level of the children with whom they are working.
□	■	□	11. Devise activities that stimulate growth and development of children with special needs.
▒	■	□	12. List specific strategies for assisting children with special needs in reaching developmental goals.
□	■	□	13. Interact comfortably with children in their practicum settings.
□	■	□	14. Interact with each child in ways that will stimulate the child's individual growth pattern.
■	▒	□	15. Compare various child guidance methods in terms of their appropriateness for children ages 0-5.
□	■	□	16. Use discipline measures that reflect understanding of the developmental level of the children.
■	■	▒	17. Demonstrate proficiency in the following care procedures of infants, toddlers, and preschool children: a. responding to distress calls in a positive manner. b. approaching with tolerance, "learning situations" such as toilet training and dressing. c. defining safe play environment for different developmental ages. d. diapering. e. feeding procedures for children at different developmental levels.
■	▒	▒	18. Specify effects of adequate diet on the following developmental areas: a. physical b. social c. emotional d. cognitive

* Core curriculum objective

Classroom	Practicum	Hospital		
▒	■	□	19.	Plan and prepare nutritious snacks and lunches for children ages 0-5.
■	□	□	20.	Specify similarities and differences in the following family life styles: a. extended b. nuclear c. single parent d. communal
■	□	□	21.	Specify similarities and differences in family life styles of different cultures.
■	▒	▒	22.	Specify major purposes of local service agencies available to individuals and families.
■	▒	□	23.	Identify local community facilities available to normal and handicapped preschool children.
▒	□	■	24.	Specify some preventive measures that help to maintain good health.
▒	□	■	25.	Identify major health care facilities in their neighborhood or community.
□	□	■	26.	Specify regular and emergency procedures of neighborhood and community health care facilities.
□	■	■	27.	Specify major responsibilities of professional and paraprofessionals in hospitals, health care related facilities, and preschool programs.
▒	□	■	28.	Specify and explain reasons for hospital regulations and routines.
□	□	■	29.	Specify probable causes of premature births.
□	□	■	30.	Describe infant care procedures in a hospital.
□	□	■	31.	Describe premature baby care procedures in a hospital.
▒	□	■	32.	Specify some gross and/or early symptoms of the following common childhood diseases, illnesses, or accidents: a. colds, chest, and upper respiratory infections b. chicken pox c. mumps d. measles (different kinds) e. concussions f. diabetes g. scarlet fever h. body shock i. poisoning

Classroom ▒▒ Practicum ☐ Hospital ■

33. Demonstrate emergency procedures to cope with the following illnesses and accidents of young children until medical help arrives:

a. high fevers
b. chills
c. concussions
d. suspected bone breakage
e. suspected internal injury
f. poisoning
g. shock
h. heavy bleeding
i. heavy chest/upper respiratory congestion
j. superficial bleeding from abrasions/cuts
k. swelling from bumps to the head

Section 2 - Annotated Objectives

In this section each of the thirty-three student objectives is explai ed and expanded. The elaboration is especially helpful for those without a strong background in child development.

Annotations of the four core curriculum objectives follow.

Annotated Objectives

1. Specify general developmental patterns of children ages 0-5

   a. physical
   b. social
   c. emotional
   d. cognitive
   e. language

When students learn about developmental patterns, it is important that they begin to understand and value the uniqueness of individual children. Though they will learn general developmental guidelines, they should recognize that within these norms there is room for a wide range of individual differences. By working with children and the suggested materials, they will also learn how interrelated all the areas of growth are. It is important that the students recognize that, though the develop ment of a child may often seem uneven, it is a continuous process. Progre is always going on even when it can't be easily seen. The five areas of growth considered are:

Physical:	Large and small muscle coordination; body use in every-day activities and self-help skills. Use of sensory equipment, with emphasis on auditory and visual per-ception and sense of touch.
Social:	The ways in which a child reacts to other children and to adults in his/her world.
Emotional:	The ways in which a child reacts to his/her own feelings
Cognitive:	The ways in which a child adapts to his/her environment. Often intellectual development is considered only to be the child's ability to learn academic skills. The definition used here implies a broader skill than that.

Language: The ability of a child to communicate effectively with other people. This includes understanding communications of others as well as being able to communicate one's own thoughts.

2. Specify major handicapping conditions of young children who have or are

a. physical handicaps
b. cerebral palsy
c. hard of hearing
d. partially sighted/blind
e. minimal brain dysfunction
f. behaviorally disturbed/emotionally disturbed
g. speech or language impaired
h. mentally handicapped
i. multiple handicaps

By knowing exactly what the specific handicaps are, students will be less apt to think of the handicapped as alien, weird, and/or people to be afraid of. They will have a clearer understanding and respect for what these children can do in spite of their handicaps.

8. Explain how an adult can interact with a child to stimulate growth in the following areas:

a. physical
b. social
c. emotional
d. cognitive
e. language

It is important that students know that they and other people can help children develop well in the mentioned areas of growth from very early infancy. Consistent positive adult interaction from a child's birth will enhance his/her growth areas more than anything else. Some of these interactions include:

Physical: Games and activities that encourage a child to use his/her body skill, i.e., putting a rattle just out of a baby's reach and encouraging him/her to reach for it; giving toddlers spoons when they are ready to use them for eating.

Social: One way people help children learn social skills is to set an example. It is important for students to know that children frequently treat others in the same way they are treated. Equally important for students to

know is that children often need help and understanding in learning social skills. For instance, learning to share takes a long time, and children will need special help in this area.

Emotional: The best way to aid children's emotional development may be by providing strong support when they need it. Students need to know that babies and young children often need someone to turn to and feel quite insecure when no one is there to meet their needs.

Cognitive: It is important to know that intellectual skills are being developed right from birth. In fact, many educators believe that the intellectual experiences gained during the first few years set a child's intellectual life pattern. It may be hard for students to learn the difference between teaching children a specific skill and engaging them in an activity that allows the children to learn something in their own way.

Language: Most people know that it is important to talk with children, but it should be stressed that it is equally important to talk with babies. Listening to babies and other children talk is also crucial to language development.

10. Devise activities appropriate for the developmental level of the children with whom they are working.

One of the problems people have when working with young children is finding the appropriate activities. Many times the toys or activities are too difficult, too easy, or just don't interest the children. Through an understanding of development, the observation of children, and the trial and error process of trying activities, the students will gain a sense of "things that work."

Section 3 - Correlated Materials Grid

A great deal of instructional material that would be valuable in a FEED program is available commercially. In this section the most relevant of these resources are listed by objective. Titles of books, booklets, films, filmstrips, learning programs, posters, records, and videotapes are included.

A "P" (primary) after an item means that it is particularly related to the objective. An "S" (secondary) means that part of the content is related.

A sampling of the resources for each of the four essential objectives follows.

1. Specify general developmental patterns
(physical, social, emotional, cognitive, language)
of children ages 0-5.

Books: Baby and Other Teachers (P),
Childhood and Adolescence (P)

Booklets: Child's Eye View (P)

Films: A Young Child Is. . . (P)

Filmstrips: From Infant to Toddler (P)

Learning Programs: Koontz Child Development Program (P)

Posters: Directions in Development (P)

Video Tapes: Learning to Talk: An Introduction to
Infancy (P)

2. Specify major handicapping conditions of young children.

Books: No Two Alike (P),
The Gift of Martha (P)

Booklets: Screening and Assessment of Young Children
at Developmental Risk (P)

Films: Care of the Young Retarded Child (P)

Filmstrips: Children with Handicaps: Physical Disabilities (P)

Video Tapes: Minimal Cerebral Dysfunction (P)

8. Explain how an adult can interact with a child to stimulate growth (physical, social, emotional, cognitive, language).

   Books: Child Care (P), The Emotional Care of Hospitalized Children (S)

   Booklet: Working With Children (S)

   Films: First Years Together (P)

   Filmstrips: The Child's Point of View (S)

   Learning Programs: Exploring Careers in Child Care (P)

   Video Tapes: Stimulation Activities for Infants and Toddlers (P)

10. Devise activities appropriate to the developmental level of the children with whom they are working.

   Books: Exploring Materials With Your Young Child With Special Needs (S), For Beginning To Be Teachers of Beginning To Be Students (P), What to Do When "There's Nothing to Do" (P)

   Booklets: Child's Play (S)

   Films: Water Tricks (S)

   Learning Programs: Amazing Life Games Theatre (P)

Section 4 - Annotated Bibliography

Each of the 206 instructional resources listed in Section 3 is annotated here. Items are arranged alphabetically by category.

The following examples illustrate the kind of information included for each item in the bibliography.

THE GIFT OF MARTHA, 1975; 29 pp.

Authors: Clara and Joseph Canning, Jr.

Publisher: Developmental Evaluation, Children's Hospital M. C., 300 Longwood Avenue, Boston, MA 02115

Price: $3.50

Summary: Through photographs, the parents of a Down's Syndrome child share their thoughts, feelings, and change of attitudes toward their daughter, Martha. They also give the reader an idea of their homelife with their

other children and tell of their love for Martha.

This beautiful and sensitive visual commentary is highly recommended.

Audience: Students Objectives: 2, 3, 8

INFANT CAREGIVING: A DESIGN, 1974; 224 pp.

Authors: Alice S. Honig and J. Ronald Tally

Publisher: Open Family Press, 201 East 16th Street, New York, NY 10003

Price: $10.95

Summary: This manual is not intended as a "how to" approach to training, but as one of many ways to train an effective child care worker. The scope of the handbook is limited to the period between infancy and thirty-six months and focuses on the child development aspects of training.

The book is an excellent resource for activities and information on infant-adult interaction.

Audience: Teachers, Students (with guidance from teacher) Objectives: 1, 8, 10

CHILD'S EYE VIEW, Module 2, Exploring Childhood; 1973, 32 pp.

Publisher: Educational Development Center, Inc., Social Studies Program, 15 Mifflin Place, Cambridge, MA 02138

Price: $2.00

Summary: It is only with time that young children come to realize that other people have minds, perspectives, and needs of their own. Students are asked to explore children's points of view, to think about children's conceptions of fairness, and, finally, to consider their own growth out of egocentrism.

Audience: Students, Teachers Objective: 1

CARE OF THE YOUNG RETAPDED CHILD, (16mm color film, 18 minutes), 1966

Distributor: International Film Bureau, Inc., 332 South Michigan Avenue, Chicago, IL 60604

Price: $225.00

Rental: $15.00

Summary: Children who are the same chronological age but have different mental abilities are depicted doing different activities. Also shown are children who have similar mental abilities but are not the same age. The film stresses the importance of accepting children at their developmental level and planning activities that they can master.

The contrast of normal and mentally handicapped children is very clear.

Audience: Students Objectives: 2, 3, 10, 12

EXPLORING CAREERS IN CHILD CARE, (Learning Program in Child Care), 1974

Publisher: McKnight Publishing Company, P. O. Box 2854, Bloomington, IL 61701

Price: Cost dependent on the selected materials

Summary: The program was designed to assist teachers in preparing junior high school girls and boys for their roles in the world of work, in the community, and in the home. The program covers a vast number of areas: values, human needs, child care, education, health care, community services, child care careers, and the world of work in general.

The teacher's guide provides information on the program's general purposes and goals. Lesson plans are suggested along with audio visual materials and class activities.

The student text is well illustrated but certain portions may require adult interpretation. A vocabulary section is provided after each chapter. Filmstrips and cassettes, overhead transparencies and activity kits are an integral part of the total program. Material can be purchased separately or as a total program.

Audience: Students, Teachers Objectives: 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 24, 25, 26, 27, 32, 33

GROWTH CHART: THE FIRST YEAR OF LIFE, 1972

Distributor: Edcom Systems, Inc., 745 Alexander Road, Princeton, NJ 08540

Price: $1.50

Summary: This chart shows the growth of a child from birth to one year in the different areas of development (motor, language, mental, and social). The chart is not to be considered as a rigid timetable, but as an information source leading to anticipation and appreciation of infant behavior.

The graphic representation of growth patterns is excellent.

Audience: Students, Teachers Objective: 1

CLASSROOM EXPERIENCES: SEEING DEVELOPMENT, (Exploring Childhood; Module II; 33 1/3 record), 1974

Distributor: Educational Development Center, Inc., Social Studies Program, 15 Mifflin Place, Cambridge, MA 02138

Price: $3.50

Summary: This recording is designed to stimulate new teaching ideas and to give teachers examples of how to use the teaching strategies in their classrooms when dealing with materials and activities of Module II, "Seeing Development."

Audience: Teachers Objectives: All objectives, Teacher Training

AMAZING LIFE GAMES THEATER, (Activity cards with a teacher's guide), 1971

Publisher: Houghton Mifflin, Inc., Educational Warehouse, Wayside Road, Burlington, MA 02173

Price: $60.00

Summary: Young children learn by sampling life in bits and pieces. Their explorations are like games, what we adults call play. The Amazing Life Games Theater is a resource for people who work with little children. It is intended to be used with preschool and kindergarten children, emphasizing individual instruction.

These cards are an excellent source for finding activities suitable for young children. Many activities can be used or slightly modified for use with handicapped children. Three hundred individual cards are included.

Audience: Students, Preschool Teachers

Objectives: 6, 7, 10, 11, 12

Section 5 - Sample Lesson Ideas

The lesson plans show how practical experience in hospitals and child care centers can be integrated with classroom learning.

Of the two sample lessons given below, the first is for Objective 1 in the junior high classroom. The second focuses on Objective 8 and is designed for the practicum site.

Objective 1: Students can specify general developmental patterns of children 0-5 (physical, social, emotional, cognitive, language).

"Picture Gallery"

Rationale: Most students enjoy looking at old pictures of themselves. This favorite pastime can be turned into a useful activity for understanding the different ways that human beings grow.

Site: junior high classroom

Materials: pictures students bring in

Preparation: Each student is requested to bring to school several pictures of him or herself at different ages, including a fairly recent one.

Procedures: Assign students to informal work groups. Ask them to compare pictures of each student in the group. Listed below are several questions that may stimulate their discussions.

1. What differences are there between the "you" then and the "you" now?
2. What are you doing in the pictures?
3. How do you think you looked to others?

4. How do you think you were treated by others?

5. Do any of the children you work with remind you of yourself when you were little? In what ways are they like how you used to be?

Objective 8: Students can specify adult-child interaction patterns that stimulate growth.

"Touch and Feely Books"

Rationale: Picture books are good for young children because they help them recognize objects. Children also learn from touching and feeling. Books that include both kinds of experiences are easy and fun to make.

Site: preschool classroom or hospital playroom

Materials: colored paper, glue, cotton balls, sandpaper, toothpicks, sponges, bottle caps

Preparation: collection of materials by students; locating babies between 10 and 18 months to read to

Procedures: There are a few commercial books that you may want to use as examples, but they aren't necessary. Students can be encouraged to make their books as different from one another as possible.

One way of beginning the activity is to have the students think of different adjectives that describe objects, i.e., rough, soft, smooth, etc.

The next step is for the students to read their stories to a baby. A discussion of how the student felt when "reading" with the babies and the babies' reaction to the activity would help establish the feeling that interacting with infants can be fun for the caretaker as well as the baby.

A follow-up activity could be the development of a picture graph that indicates the textures touched most and least often by the babies.

"Touch and Feely"

Student Activity Sheet

Directions for Students

1. Make a book with one picture on each page.
2. Draw a picture of an animal or object.
3. Fill in your picture with things that would be good to feel.
4. REMEMBER! Let the baby touch the picture as you say the name of the object.

Answer These Questions

1. Which picture did the baby like the most?
2. How could you tell?
3. How could you tell that the baby liked the book?
4. How did you feel when you were "reading with the baby?"

Minimum Curriculum Package

FEED staff recommend the following curriculum materials as a minimum for starting your program. They also suggest that at least $500 in support materials (filmstrips, films, learning programs, etc.) be purchased as a one-time investment.

1. Exploring Careers in Child Care, Text, Bloomington, IL: McKnight Publishing Co., 1974	$ 6.99
2. Exploring Careers in Child Care, Activity Manual, Bloomington, IL: McKnight Publishing Co., 1974	$ 2.49
3. No Two Alike (Helping Children With Special Needs) Cambridge, MA: Education Development Center, 1973	$ 4.60
Total	$14.08

Additional Costs

Teacher Set for Exploring Careers in Child Care	$16.50
Teacher Guide for No Two Alike	$ 5.60
Total	$22.10

The FEED Curriculum Guide is conveniently organized in a looseleaf notebook. The five major sections are marked with divider tabs for quick

reference. A cassette case built into the inside back cover holds the introductory tape that gives a brief overview of FEED and of the guide.

In summary, the major assumption made about the curriculum for the FEED project was that it had to be more than a cookbook that had to be followed exactly. Instead, a facilitative guide was prepared that enables FEED participants to build a curriculum that meets the specific needs of their students. In essence the building blocks have been provided along with alternative ways of mixing the cement. The final building structure is the work of the people involved.

Instructional Style for Attitude Development

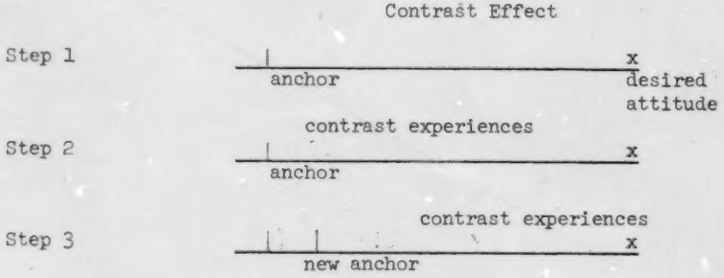
The FEED curriculum is developed from a process orientation or theory of instruction as to how the curriculum materials and practicum experiences should be approached. This is no less true about how attitudes should be taught. A brief description will explicate that approach. First, the process will be outlined in the abstract and then an example will be given to demonstrate it.

The FEED Teaching Approach

In trying to determine where to start the process of instruction, the FEED method focuses on the individual students. Clearly, each middle school student has a set of beliefs or attitudes related to infants and preschoolers, handicapped children and childrearing before entering the program. In many instances, the middle school students may have clarified their own beliefs and may not have discussed them. In some cases, the student may be ambivalent and troubled over the attitudes of his peers. The FEED approach begins by helping the middle grade student express his own beliefs. No judgment as to the value or worth of a statement is to be made by the teachers about a belief expressed but rather a discussion is held to help the student clarify his attitudes.

The process of helping each student clarify his/her attitudes about a specific issue typically ends up with each individual student recognizing that everyone has a set of attitudes which are uniquely his/hers. What is important to the FEED approach is to accept each student's attitude and use that as the anchor of--the basis for--instruction.

The verbalized statements of the students are used as the beginning point for attitude change. Experiences are provided that vary slightly from the attitude expressed. These experiences are provided to allow the individual to compare and contrast his/her attitudes with a new experience or a new idea. This contrasting process gradually shifts the attitude in a desired direction.



The theory is that an individual changes his attitude only under conditions when he/she recognizes that it is possible to do so. In other words, in order to change attitudes, which are in conflict with facilitating childrearing, a teacher starts with what students believe to be true, and provides experiences that vary slightly from that belief, constantly asking the student to compare and contrast his/her attitude with his/her experience and feeling about that experience. Of course, not all students' attitudes need or should be changed. Facilitating attitudes need to be reinforced.

An Example

To help clarify the FEED approach to the curricular materials, consider this example:

As a lead up to one of the objectives related to emotional development as stated in the FEED Curriculum Guide, one teacher wanted to get across the idea that all people have feelings and specifically that handicapped children have feelings. Initially, she heard comments from her middle school students about "dumb little kids," "freaks who weren't like everybody else" and "babies who couldn't do nothin." Working with her class, the teacher helped each student clarify what feelings--emotions--they each had and behaviors that accompanied those feelings. Each student had a list which was kept for later use. At the practicum site and the hospital, the teachers were careful to point out behaviors that looked like they might reflect feelings--giggles, smiles, cries, etc. Back in the classroom, the students listed the behaviors that they had seen. In many cases it was the middle school student who had precipitated the smiles and giggles. This list of preschooler behaviors was compared with the students' own lists. Questions were asked like, "Do you see similar behaviors and feelings from both normal and handicapped preschoolers? This activity began to move those middle school students toward being able to understand preschooler emotional development and develop activities to foster that development.

Conclusion

The FEED approach to the curricular materials that has been discussed above contains four essential elements:

1. Help students clarify their attitudes/feelings
2. Accept those feelings as the anchor for learning
3. Provide slightly contrasting experiences
4. Have students compare and contrast initial attitudes and experiences

The recycling of this method using new and slightly contrasting experiences each time is one way to help students learn or reinforce facilitating child care attitudes.

CHAPTER IV

FEED PROGRAM IN OPERATION

Thomas E. O'Shaughnessy and Dennis N. Jackson

"The context in which a child is reared can have a considerable effect in amplifying, modifying or completely overcoming such (birth induced) handicaps"

-- Clarke & Clarke, 1977

Preplanning

In the following section the ongoing operation of a FEED program will be described. It is important to note that a FEED program in operation is the product of close cooperation of personnel in all four sites: middle school, hospital and preschool handicapped classes and preschool normal classes. These include middle school administrators, teachers, and sometimes aides and student teachers; hospital pediatric nurses, nursing supervisors, health educators, and technicians, public health nurses and clinicians; supervisors, teachers and aides at day care centers, preschool programs and centers for handicapped children.

Obviously before the program can become operational, careful attention must be given to such factors as site selection, curriculum, and transportation which are discussed in the FEED Implementation and FEED Curriculum Guides and presented in Chapter II.

FEED programs differ at each site in some minor ways. For example, in some cases the hospital experience may be of a longer time period than at another site. Nonetheless, the basic format is the same: a middle school class and three practicum experiences must be maintained if the program is to be called a FEED program. However, for the purposes of this chapter, a look at an example of an operating FEED site should illustrate the basic elements of a FEED program. The case below is a gestalt of three FEED programs. The description begins after the administrative negotiations

and workshops have taken place. It is now the first day of operation.

FEED in Midtown

Ten boys and twenty girls have been randomly selected from eighth grade volunteers for a special section of Home Economics. They have secured parental permission and know a little about the program which was presented to them in the semester before. Following lunch and recess they go to their fifth period class to find out what they will be doing during the semester, already aware that the class will do something at the St. John's church preschool, a hospital, and the Memorial Center for Handicapped Children. The teacher begins the session by reviewing and amplifying the information about the FEED program. Emphasis was given to the fact that the middle grade students' other teachers have agreed to permit the students to miss some of their classes without penalty to be able to work at the practicum sites. The middle grade class teacher also stressed how the personnel at the practicum sites are depending on the students to actively participate in the programs at the sites.

The First Week

The students' first week is spent in their middle school classroom where they are introduced to the program's objectives, organization and and what will be expected of them in the total program. They are introduced to the curriculum through the use of print materials, films and filmstrips, much as described in Chapter II. They start learning about the development of infants and preschoolers. In addition they begin to learn about the centers in the community that provide services for normal and handicapped children.

Teachers from St. John's preschool and Memorial Center for Handicapped Children, and a child life worker from Central Hospital come to the class to share with the students the objectives and expectations of their institutions and to describe what they will be seeing. The teacher from

Memorial Center for Handicapped Children presents a slide show that has been prepared for use with volunteers. Following the slide show, a discussion is held about the special needs and characteristics of handicapped children and about the middle grade students' possible feelings and fears about working with handicapped children.

The Second Week

The second week the students make field trips to the three practicum sites where they are given tours of the facilities and introduced to various personnel. At the hospital they are given a general tour of the facilities and are shown the film Play in the Hospital. When the students meet in class on Wednesday, they discuss their reactions to the trips. The teachers distributed copies of the enclosed schedules, which have been prepared by the implementor in cooperation with the three sites.

The teacher discusses the need for the middle grade student and anyone who works with children, to have a current physical examination and appropriate immunizations. The public health department has agreed to provide three clinics for the students. On the last two days of the two week orientation period the following clinics were provided.

1. Adolescent clinic (2 hours) at Eastern Middle School in which students were actively involved in assessing their own health and immunization needs. They did the following:

   a. Surveyed their own health records for immunizations and physical examinations and assessed their needs for same.

   b. Performed examinations and diagnostic tests on themselves or classmates, i.e., height, weight, eye, ear and throat exams, urine analysis (strip test), blood pressure, pulse, etc. (under supervision).

2. Physical examination clinic (1 hour) at Public Health Office for those needing this.

3. Immunization (1 hour) at Public Health Office reviewed their need, both in terms of their own health, and the health of the children with whom they will be working. They were given immunizations they required and observed children in the same setting.

Eastern Middle School - FEED Program

SCHEDULE	M	T	W	Th	F
Preschool-Handicapped Memorial Center (12:45-3:00)	4		4	4	
Preschool-Normal St. John's (10:45-1:15)	4		4	4	4
Hospital/Health Care Central Hospital (2:00-4:00) Public Health*	2		2		2
Middle School Eastern (12:32-1:12)	22	30	22	22	30

*County Health Department will provide students with three clinics.

ROTATION	WEEKS 1	2	3	4	5	6	7	8	9	10	11	12	13	14
Preschool Handicapped														
Memorial	AB**	AB	EF	EF	UJ	IJ	MN	MN	QR	QR	UV	UV	YZ	YZ
Center	CD	CD	GH	GH	KL	KL	OP	OP	ST	ab	WX	WX	ab	cd
Normal														
St. John's	OP	OP	ST	ST	WX	WX	ab	ab	AB	AB	CD	CD	IJ	IJ
	QR	QR	UV	UV	YZ	YZ	cd	cd	EF	EF	GH	GH	MN	KL
Hospital														
Central	Id	MW	ac	Nb	BR	CT	HU	DG	JZ	KY	LP	ES	AF	OQ

**Letters represent individual students

Average total hours per student (by category)

School classroom	57.5 hours (69 classes)
Preschool-handicapped	13.5 hours
normal	15.0 hours
Health Care/Hospital	* 10.0 hours

*County Health Department will provide students with three clinics.

The Practicum Experiences

The students are now ready for the practicum experiences. On Monday morning four students walk to St. John's where they are introduced to a small group of three and four year olds. The students informally observe and interact with the children during a free play period. This is followed by recess where the students continue getting to know children on the playground. Later everyone goes to the lunchroom where the students are fed. Before leaving for Eastern school they meet with St. John's head teacher to discuss their reactions to the morning, and to plan what they might do on Thursday. Finally the four return to the middle school.

While the four students were on the playground at St. John's, another four students are being driven to Memorial Center for Handicapped Children. Because this is the first day that the group is going to the center, they have left a half hour early so they can have lunch with the teachers with whom they'll be working. This time is used to discuss particular children and to plan some activities for the students. All the teachers had prepared lists of children and possible activities. One student learns that on Thursdays he/she will assist the teacher and a specialist in supervising a swimming program for the students. Another is to assist the teacher in helping children with perceptual and motor development activities. The last two students will assist one teacher in working on preacademic skills and occasional physical therapy with the center's specialist. In addition, they assist the handicapped child center at the close of the school day.

Two middle grade students go to Central Hospital after the regular school day. The two go to the pediatric unit, where they have had a tour previously. They wear hospital identification badges which enable them to have easy access to the buildings' facilities. They check at the nurses station when they find the playroom empty. They learn that they are a couple of minutes early and go back to the playroom to wait. Soon the child

life worker joins them pushing a bed on which lies an eight year old with head bandages and both legs in traction. They are closely followed by children of various ages walking alone or helped by parents or nurses. Afternoon play period has begun. One student finds out what the bedridden child wants and gets him some games to play. The other student accompanies the child life worker carrying toys and games to a three year old confined to her crib. The child's mother helps to smooth the getting acquainted period and the child and student are soon playing. They get along so well that the mother is surprised that the child doesn't object at temperature taking time and continues putting together a puzzle with the student.

Each student assists with snacks for the children, helping to feed those needing it. At the end of the play period they help bring children back to their rooms and prepare to leave themselves. One of the student's mother is waiting downstairs to take them home.

During the class period that Monday, all students but those at St. John's and Memorial saw a film on young children and discussed what they saw.

Each middle grade student rotates to a different practicum site until every student has an experience at each site. In the coming weeks the students would be involved at many of the same types of activities and many different ones.

In the preschool they would work with individual children on prepared play activities, tell stories to the group, assist on field trips, soothe hurt feelings, assist in art activities, read stories to individual children and help at the dough table, sand box and so on.

At the Center for Handicapped Children there would be frayed tempers to deal with, diapers to help change, play activities to adapt, fun to have in the pool, special handling skills to learn, and new feelings to encounter. They helped a deaf/blind child learn how to feed himself

and assisted another blind/retarded child take his first steps alone. Some students learned how to sign to a deaf child.

The hospital would provide a varied assortment of activities; many serendipitous. Students would encounter frightening injuries, witness remarkable recoveries, observe many medical procedures, share fears and caretaking with some parents, travel with children to x-ray, physical therapy, and other services, chat with pediatricians and nurses, change diapers, help bathe babies, feed babies, and confront death.

Interrelating Class and Practicum

To help provide some background for these activities, both general and specific, and to provide a place to discuss them, the middle school classroom would be a busy place. Utilizing many of the materials available on site, or on loan from FEED, the teacher worked with the whole class or a group, small groups and individually. He/she supervised and facilitated many discussions about issues raised in class or at the practicum site. Some discussions were heated; dealing with diverse feelings and attitudes, others were more orderly comparing of experiences.

Working with the students and with the practicum site personnel, the teacher attempted to provide some continuity for the program that students encountered. One example demonstrates the continuity between the experience that occurred at the site and the classroom. The middle grade students encountered a Down's child in the preschool handicapped class. They were very interested in the child and discussed her when they returned to class. The teacher followed up the discussion by showing a film on the syndrome described in the FEED Curriculum Guide. The middle school teacher prepared a lecture on the genetic factors involved in Down's. This led to a discussion of what is genetic counseling as well as to how a family feels having a Down's child. A sister of a Down's child was invited to class to share her experience living with and being a sibling of a handicapped child.

She also discussed her fears and the reality of whether or not she would have a Down's child. Similar examples can be given of how the middle grad students' encounters with Rubella victims, deaf, blind, and cerebral palsi children have led to a greater understanding and knowledge of the child's difficulties and an awareness of the child's abilities, needs and humanness At the end of the semester comments from students, teachers, parents and others touched by the program provided the basis for program evaluation. The classroom teacher and practicum site personnel made what adjustments were needed based on their evaluation and prepared for a second group of students, confident that what they were doing was working. A FEED program was truly operating.

Evaluative Comments

Some of the comments made by adults working with FEED students include:

> They were very helpful to us. They will play with the children, they read stories to them, they are learning how to really become parents.

> They come in quite awesome of the hospital. Many times they have not been in a hospital before, so just the whole experience of seeing a doctor in a surgical suit or an administrator . . . these kinds of things you can see from their faces an opening up . . . a glimmer of involvement that comes to them . . . a recognition that these handicapped children are people, too.

FEED students have said:

> We were in the hospital and I was working with a girl, a little baby. I think she was about, she wasn't one yet, and she was neglected. Her mother had her when she was real young and her skin was peeling off of her from the air in the hospital and they said you couldn't get her to respond. But when I got finished with her she was responding quite we..

> Well, it gives me a happy feeling that I'm helping the children, and at first I had doubts about helping handicapped children, because, you know, I just thought they hopped up and jumped and hit you or something. But now we know how to deal with them.

CHAPTER V

EVALUATION PROCEDURES AND RESULTS

Nicholas J. Anastasiow and Everett W. Strawhun

"the effects of birth complications on later development can be mediated by the attitudes of the child's caretaker"

-- Sameroff and Chander

The evaluation model adopted by FEED is a process oriented framework. In essence it is a model which requires the staff to collect data upon which to make decisions and to monitor the development of the project. By and large the process follows the time line as presented in Anastasiow and Majer (1973) and Anastasiow and Hanes (1976). The framework requires monitoring of the entire program development until such time as the program is fully operational within a setting.

The first phase of evaluation deals with administrative objectives - locating sites, seeking cooperation, establishing liaisons, hiring staff, delivery of curriculum and implementing workshops.

The second phase involves the evaluation of the effectiveness of the workshop, the ability of the teachers to carry out the curriculum, the ability of our staff to consult with the teachers.

The third phase of evaluation focuses on the middle school student his knowledge (about child development and parenting techniques), attitudes (towards normal and handicapped children, FEED program and self) and behaviors (class attendance, effectiveness of teaching child in practicum center).

The major focus during FEED's first two years was the collection of formative data - data which was utilized for improving program operations. Major target areas were:

1. staff functioning
2. modes of decision making

3. staff development
4. curriculum development
5. site personnel training-planning
6. outcome data from workshops
7. identifying needs and priorities for inservice training
8. examining the effectiveness of the model
9. the collection of anecdotal information and site personnel program perceptions and reactions
10. the effectiveness of site entry procedures

The staff, field personnel and middle grade students all participated in providing data during this stage of the evaluation. The results of this formative stage were used to revise and improve FEED operations.

The second focus was directed toward piloting and developing instruments for student outcome data. The FEED project has many stated goals, the two overriding ones being:

1. reduction in the number of handicapped children
2. adoption and implementation of positive child-rearing techniques by those who received the FEED experience once they become caregivers

Both of these goals can only be measured longitudinally and are beyond the scope of this period of investigation. A series of second level objectives were chosen from which hopefully could be inferred the future attainment of the FEED major objectives.

The evaluation attempted to operationalize and measure the eight FEED objectives. The objectives were:

1. Help young people develop positive attitudes toward normal and handicapped children;
2. Make young people aware of the responsibility of child care--as caregivers, teachers, or parents--and to foster a respect for these responsibilities;

3. Help young people learn about normal and abnormal child development;
4. Enable young people to care effectively for normal and handicapped infants and children and to remedy some handicapping conditions;
5. Prepare young people to be informed consumers of child care and health services;
6. Make young people aware of career opportunities in the fields of child care and health services;
7. Encourage young people to perceive themselves positively by providing them with useful skills and a chance to use these skills in successfully caring for children in work-oriented settings;
8. Help young people, by teaching them the process of human development, to understand themselves and to be better able to constructively influence their own lives.

A cluster of supportive attitudes and knowledge on these five areas listed below suggest to us the potentiality of future facilitating caregivers.

Nine instruments were designed and administered to measure these objectives. They included assessing student

I. Attitudes Toward Handicapped Children
II. Attitudes Toward Young Children in General
III. Attitudes Toward Hospitals
IV. Attitudes Toward Themselves
V. A Test of Students' Knowledge of Child Development

All instruments were designed and field tested prior to the third year data collection--a description of each instrument follows. In each case two instruments of a different type were developed to insure that the results obtained would be more valid (Campbell & Fiske's discriminant validity).

Attitudes Toward Handicapped Children:

Two instruments were developed. The first was a Likert (strongly agree/strongly disagree) scale consisting of 22 items (α = .882)[2]. It consisted of three subscales:

1. an isolation or separation subscale (α = .743), - items such as "It is a mistake to keep a handicapped child in the home with the rest of the family,"

2. an ability subscale (α = .787) - items such as "Handicapped children cannot be taught very much,"

3. an affective subscale (α = .762) - items such as "A handicapped child needs to be hugged, kissed, and fondled."

The second instrument was a 36 item semantic differential (α = .364); consisting of the typical factors of evaluation, potency and activity (Osgood, Suci, & Tannerbaum, 1967).

Attitudes Toward Children (i.e., "normal" children)

Two instruments were developed. The first was a Likert (stongly agree/strongly disagree) scale consisting of 35 items. It consisted of three subscales:

1. an independence factor (α = .817) - items such as "The experience of being on their own is often good for children,"

2. a discipline factor (α = .836) - items such as "Slapping a child immediately for getting into mischief is the best way to stop it,"

3. an expression factor (α = .842) items such as "A child has a right to his own point of view and ought to be allowed to express it." The second scale was a semantic differential identical to the one described in Attitudes Towards Handicapped Children (36 items, α = .805).

Attitudes Toward Hospitals

Two instruments were developed. The first was a thirty-one item Likert (Strongly agree/strongly disagree) scale (α = .801) - consisting of items such as "Hospitals are a blessing to mankind" and "One goes to a hospital to die." The second was a thirty item semantic differential (α = .837) with items similar to the ones above.

Attitudes Toward Self

Two instruments with known validity and reliability were chosen and piloted. The first looks at a child's self esteem or self image, the Mooney Problem Checklist (Mooney, 1950). It consists of six subscales; school, home and family; health and physical development; money, work and future; boy, girl relations; relations to people in general; and self-centered concerns. The second is termed a locus of control scale, Your Thoughts and Feelings (Nowicki & Strickland, 1973). It attempts to discriminate students who perceive themselves as in control of their destiny (internal locus of control) from those who perceive themselves controlled by others and the environment (external locus of control). For example, on item one "Do you believe that most problems will solve themselves if you just don't fool with them," an internal will respond with a no, an external should respond with a yes.

A Test of Students' Knowledge of Child Development

This instrument was assessed via a 64 point test consisting of true/false, multiple choice, and matching items which focus on stages of development, children's self-images and behavior.

Examples:

2. Children go through the same basic patterns of development, even though the rate may be different for each child. (T, F)

20. Match the task on the left with the stage of development on the

Table 1

Reliabilities of Instruments:
Internal Consistency (Cronbach's Alpha)

I.	Attitudes toward Handicapped Children		
	Likert Scale:	Separation	.832
		Ability	.762
		Affect	.795
		Total	.905
	Semantic Differential:	Evaluation	.945
		Potency	.729
		Activity	.826
		Total	.[illegible]7
II.	Attitudes toward Children		
	Likert Scale:	Independence	.758
		Discipline	.729
		Expression	.787
		Total	.832
	Semantic Differential:	Evaluation	.855
		Potency	.717
		Activity	.693
		Total	.858
III.	Attitudes toward Hospitals		
	Likert Scale:	Total	.913
	Semantic Differential:	Evaluation	.915
		Potency	.794
		Activity	.854
		Total	.952
IV.	Locus of Control		.747
V.	Cognitive Test		.940

right that indicates about when the task begins.

a.	Self-feeding	Infancy-about 8-12 months
b.	Walking	Infancy-during the first year
c.	Weaning	Between about 12-18 months
d.	Toilet training	Late infancy

Instruments were piloted and revised with previous years' FEED students. The reliabilities of each instrument are reported in Table 1.

In addition, validity information on these instruments is presented in Table 2 below. Campbell and Fiske (1959) discuss convergent validity as the expectation of instruments (whatever type; Likert, semantic differential) measuring the same construct being highly correlated.

Table 2

Convergent and Discriminant Validity Table
(Correlations Among Various Instruments)

Method: Likert		Hospitals	Handicapped children	Children
	Children	.064	.039	.239
	Handicapped children	.094	.281	.173
	Hospitals	.340	.115	.196

Method: Semantic Differential

Average convergent correlation = .287

Average discriminant correlation = .113

This table presents the correlations among the three construct areas for which both a Likert and Semantic Differential Technique were used (Attitudes Toward Handicapped Children, Toward Young Children, and Toward

Hospitals). Campbell and Fiske's (1959) multi-trait, multi-method approach required comparing the average convergent correlation with the average discriminant correlation. Obviously, the former should be higher than the latter. The above table is a variant of the procedure. Results indicate that the average convergent correlation is statistically significant at $p \leq .01$ level, while the average discriminant correlation is not statistically significant ($p > .20$). This result supports the validi of the instrumentation.

Other Student Data

In addition to the above instrumentation, three more pieces of studer data are of value. The first is student background information; expectations or why enrolled in FEED, amount of previous experiences with handi capped children, previous experiences in or with hospitals or medical facilities, and family information (number and age of children in the household). The second consists of student opinions about FEED; interest curricular materials, activities, etc. And third, archival data (grades and attendance) are of value to document that FEED has not had a detrimental effect on normal school goals; and hopefully has had a positive effect. These data will be used in the longitudinal study.

Data Collection Design

The design for the attitude instruments was a pre-post-program/contro design. The knowledge test (above) was administered on a post basis only

Data Collection

Pre and post test data were collected in all five of the FEED locatio on all FEED students and a comparable number of non-FEED students. First data were collected prior to field experiences as close to cycle start up as logically possible. Post tests were then administered close to the

end of the cycle. The table below provides this information.

Table 3

Number of Students in FEED and Control Groups*

Site	FEED	Control
1	48	40
2	10	18
3	10	10
4	49	35
5	48	53
Total	165	156

*Note: This number included only those students present at both pre- and post test times; thus, the actual number of students involved in FEED is higher.

Administration and Scoring Procedures

Administration of the instruments was done by the FEED evaluator at all five sites to insure standardization of procedures. Administration was oral, taking between 75 to 90 minutes total time.

Students marked their responses on a protocol, which was then transferred to optical scan sheets for entry into the computer. This transfer or coding procedure consisted of the original coding, verification, and then spot checking to insure accuracy on each student's responses. Time involved was approximately 20 minutes per student.

Analysis and Results

The analysis of variance model was utilized to test significant differences in attitudes and knowledge among FEED and non-FEED students. For all attitudinal measures the post test scores were adjusted by using the pre-test as a covariate to remove any effects of initial dissimilarity between the two groups. These adjustments were made so that any

differences occurring between the FEED and control population scores at the end could be attributed solely to the FEED program's intervention. Although Cronbach and Furby (1970) question the appropriateness of measuring change in general, and analysis of covariance in particular, the argument of Kenny (1975) is more compelling. The design of this data collection definitely falls within the limits of Kenny's analysis (see also the discussion of Linn & Slinde, 1977). The A Test of Student's Knowledge of Child Development was analyzed by a simple one-way analysis of variance.

A 2 x 2 analysis of covariance was run for each attitude subscale and the attitude scale total score for each instrument with FEED/non-FEED students treated as one dimension, and sex as the other dimension. There were no significant sex interactions between scores for girls and boys, i.e., scores for boys and girls were not statistically different, therefore only treatment (FEED/non-FEED) statistics are presented in this report.

A discriminant analysis (Morrison, 1976; Tatsuoka, 1971) was performed using the data from the attitude instruments; the self-esteem measure and the locus of control. A discriminant function was calculated on the change scores (post minus the pre score)[1] to ascertain which variables significantly discriminate FEED students from control students.

Results

Each site was analyzed separately; the summary of results is presented by site and by variable in Table 4. The results in Attitudes Toward Handicapped Children indicate in each case, the direction of significance favored FEED students. That is, FEED students showed significantly more positive attitudes toward handicapped children. The results

[1]Note: the scores from the Mooney Problem Checklist were first inverted (max. possible score - actual score) so that a high positive score indicates a high positive self-esteem.

Table 4

Summary of Significant Finding
FEED vs. Control Group

Area of Measurement	Scale	Site					
		1	2	3	4[a]	4[b]	5
I. Attitudes toward Handicapped Children							
Likert:	Separation				*	*	*
	Ability		*	*		*	*
	Affect			*			*
	Total				*	*	*
Semantic Differential:	Evaluation	*	*	*	*	*	*
	Potency					*	
	Activity			*		*	*
	Total			*		*	*
II. Attitudes toward Children							
Likert:	Independence	*				*	*
	Discipline				*	*	*
	Expression				*	*	*
	Total				*	*	*
Semantic Differential:	Evaluation			*	*	*	*
	Potency						*
	Activity				*		
	Total			*	*	*	*
III. Attitudes toward Hospitals							
Likert:							
Semantic Differential:	Evaluation						*
	Potency						
	Activity		*				
	Total		*				*

* indicates significant difference ($p \leq .05$)
a cycle 2
b cycle 1

for Attitudes Toward Young Children in General indicate that all significant differences favor FEED. FEED students state more positive attitudes toward the various aspects of young children measured. Positive attitude changes toward hospitals were demonstrated in sites 2 and 5. These results are discussed more fully below.

The results of the analyses of the child development test are presented in Table 5 below. The three out of five significant results favor FEED students; they demonstrate a greater knowledge of child development than the control students.

Table 5

A Test of Student's Knowledge of Child Development Test:
Results of Analysis of Variance

Site	MS	MS error	F	P	FEED Mean Score	Control Mean Score
1	38.2	63.7	.6	.581	24.6	22.7
2	42.7	51.8	.8	.372	21.3	18.7
3	1901.3	35.8	53.2	.001*	45.6	26.1
4	235.7	23.9	9.8	.003*	34.0	20.3
5	2077.9	154.8	13.4	.001*	39.6	30.5

*indicates significant difference

Results from the discriminant analysis of the Mooney Problem Checklist and Locus of Control measures are presented below in Table 6.

Table 6

Stepwise Multiple Discriminant Analysis
FEED vs. Control
(Mooney Problem Checklist and Locus of Control)
n = 216

Step Number	Variable Entered	Wilks lambda Λ	χ^{2a}	$P \leq$ [b]
1	Health & Physical Development (Mooney Scale #1)	.927	15.95	.05
2	Relations to People in General (Mooney Scale #6)	.914	18.92	.05
	No other variables entered			

[a] $\chi^2 = - M \log_e \Lambda$ [b] (7 d.f.)

Where $\Lambda = \frac{W}{W + T}$ and $M = n\text{-}1\text{-}\frac{1}{2}(k + p)$

These results indicate that change scores (in a positive direction) on the two subscales of the Mooney Problem Checklist discriminate significantly between FEED and non-FEED students. These subscales deal with

1. Health and Physical Development
2. Relations to People in General

Although many assume personality variables to be relatively stable in adults, FEED has significantly changed student self-perceptions in these two areas.

The FEED project is based on the assumption that knowledge of child development as well as supportive attitudes towards children are both essential qualities for effective child caregiving, whether with handicapped or non-handicapped children. The FEED rationale assumes that the child-rearing techniques used by adults can do much to facilitate development and remediate perinatal stress conditions. The results of these data (refer to the Summary of Significant Findings, Table 4) indicate very positive results in these vital areas. The most positive results concern

Attitudes Toward Handicapped Children. The program at sites 5, 4, and 3, and somewhat less at site 2, have all succeeded in making a significant impact upon FEED student attitudes concerning a handicapped child's ability, activity level, and potentialities. Importantly, FEED students support the notion of integrating handicapped individuals into the mainstream of society rather than segregating them. Results concerning Attitudes Toward Young Children in General indicate that the FEED curriculum and experience is successful in positively modifying student feelings toward allowing and encouraging a child's independence and self-expression. FEED students are also more oriented toward non-physical, non-punitive discipline measures. The Attitudes Toward Hospitals results from sites 2 and 5 (which have the strongest hospital components) are also encouraging in proving the potential of FEED. Finally, Knowledge of Child Development analyses indicate that the FEED curriculum is effective for transmitting knowledge focusing on states of development and children's self-images and behavior.

Thus, each area of measurement suggests that the program as designed is working positively toward obtaining FEED objectives. These are all very positive and encouraging results. A few comments are necessary in terms of focusing on individual sites. Sites 4 and 5 provide the best test of the FEED program for several reasons. First, these two sites originated with extreme community self-interest; an important variable in school programming. Second, they originated after the program curriculum had been field tested and revised and considered somewhat finalized. Third, they have multiple class/multiple teacher operations with a large number of students involved. Thus, the data from site 4 and site 5 may be construed as being most critical in terms of evaluating FEED. The results from these two sites indicate without a doubt that the FEED program can be an extremely effective supplementary school program. Control data obviously points out that students in conventional school programs are not

acquiring knowledge and positive attitudes toward child caregiving and normal and handicapped children. If such goals are deemed valuable, a program such as FEED would be an asset to regular school experiences.

In addition to knowledge and positive attitudes toward childrearing and handicapped children, attitudes toward oneself obviously interact to determine the quality of child caregiving. In this regard, FEED has significantly enhanced student self-perceptions in two vital areas. It is felt that these latter results relate very easily to FEED programming: working with individuals who have physical and/or mental handicaps should make one's perceptions of physical problems change; and working successfully in various settings with adults, peers, and younger children should change perceptions of ability to deal with people in general.

Summary

At this early stage of two years development and one year full operation the data allow one to conclude that participation in FEED is responsible for students' significantly enhanced positive Attitudes Toward Handicapped Children, Attitudes Toward Young Children, Attitudes Toward Hospitals, several areas of Self-Perceptions, as well as Knowledge of Child Development. In this regard, the FEED program has been proven to be an effective and viable program.

The need for such programs as FEED are magnified each day as the number of 10 - 16 year olds who bear infants increase.

FEED personnel will be conducting national workshops in five regions to train others in how to begin, implement and operationalize a FEED program on their own.

BIBLIOGRAPHY

Anastasiow, N.J. & Hanes, M.L. Language patterns of poverty children. Springfield, IL: Charles C. Thomas, 1976.

Anastasiow, N.J. & Majer, K.S. Evaluation questions for teachers in new programs. Viewpoints: Bulletin of the School of Education, Indiana University, 1973, 49(4), 101-110.

Birch, H.G. & Gussow, J.D. Disadvantaged children: Health, nutrition and school failure. New York: Harcourt, Brace & World, 1970.

Broman, S.H., Nichols, P.L., & Kennedy, W.A. Preschool IQ. Hillsdale, N.J.: Erlbaum Associates, 1975.

Campbell, D.T. & Fiske, D.W. Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 1959, 56, 81-105.

Clarke, A.D.B. & Clarke, A.M. Prospects for prevention and amelioration of mental retardation: A guest editorial. American Journal of Mental Deficiency, 1977, 81(6), 523-533.

Coles, R. Children of crisis: Migrants, sharecroppers, mountaineers. (Vol. II). Boston: Little, Brown and Company, 1971.

Condon, W.S. & Sander, L.W. Synchrony demonstrated between movements of the neonate and adult speech. Child Development, 1974, 45, 456-462.

Cronbach, L.J. & Furby, L. How we should measure "change" -- or should we? Psychological Bulletin, 1970, 74(1), 68-80.

Cutright, P. Illegitimacy in the United States. Commission on Population Growth, Vol. 1, Demographic and Social Aspects.

Cutright, P. The teenage sexual revolution and the myth of an abstinent past. Family Planning Perspectives, 1972, 4(1), 24-31.

Diepold, J.H., Jr. Adolescent sexual behavior: A review of taboo (1943 to 1976). Paper presented at Indiana University. 1976 (mimeo), 22 pp.

Eskin, B.A. When do nocturnal emissions begin in adolescence? Does that date coincide with or resemble first menstruation in girls? Medical Tribune, February, 1977.

Furstenberg, F.F., Jr. Unplanned parenthood: The social consequences of teenage childbearing. New York: The Free Press, 1975.

Kenny, D.A. A quasi-experimental approach to assessing treatment effects in the nonequivalent control group design. Psychological Bulletin, 1975, 82(3), 345-362.

Kinsey, A., Pomeroy, W., Martin, C.E., & Gebhard, P. Sexual behavior in the human female. Philadelphia: W.B. Saunders, 1953.

Lilienfeld, A.N. & Pasamanick, B. The association of maternal and fetal factors with the development of mental deficiency: II. Relationship to maternal age, birth order, previous reproductive loss and degree of mental deficiency. American Journal of Mental Deficiency, 1956, 60, 557-569.

Lillie, D.L. & Trohanis, P.L. (Eds.) Teaching parents to teach. New York: Walker and Company, 1976.

Linn, R.L. & Slinde, Jeffrey, A. The determination of the significance of change between pre-and posttesting periods. Review of Educational Research, Winter 1977, 47(1), 121-150.

Lipsitt, L.P. Learning in the human infant. In H.W. Stevenson, E.H. Hess, & H.L. Rheingold (Eds.), Early behavior. New York: Wiley, 1967. 225-247.

Mooney, R.L. & Gordon, L.V. Mooney Problem Check List, Junior High Form. and Manual. New York: The Psychological Corporation, 1950.

Morrison, D.F. Multivariate statistical methods. New York; McGraw Hill Book Company, 1976.

Neligan, G., Prudham, D., & Steiner, H. Formative years: Birth, family and development in Newcastle upon Tyne. London: Oxford University Press, 1974.

NINDB Research Profile: No. 1. Summary of Research, 1967. Washington, DC: U.S. Department of Health, Education and Welfare.

Nowicki, S., Jr. & Strickland, B.R. A locus of control scale for children. Journal of Consulting and Clinical Psychology, 1973, 40(1), 148-154.

Osgood, C.E., Suci, G.J. & Tannebaum, P.H. The measurement of meaning. Urbana, IL: University of Illinois Press, 8th ed., 1971.

Sameroff, A.J. & Chandler, M.J. Reproductive risk and the continuum of caretaking casualty. Review of child development research, Horowitz, Frances D. (Ed.). Chicago: The University of Chicago Press, 1975, 187-244.

Stickle, G. & Ma, P. Pregnancy in adolescents: Scope of the problem. In Contemporary Ob/Gyn, New Jersey: McGray-Hill, Inc., June, 1975.

Tanner, J.M. Earlier maturation in man. Scientific American, 1968, 218(1), 21-27.

Tatsuoka, M.M. Multivariate analysis: Techniques for educational and psychological research. New York: John Wiley & Sons, Inc., 1971.

Wallace, H.M. Factors associated with perinatal mortality and morbidity. Clinical Obstetrics and Gynecology, 1970, 13(1), 13-43.

Werner, E.E., Bierman, J.M., & French, F.E. The children of Kauai. Honolulu: University Press of Hawaii, 1971.

White, B. L. First three years of life. Englewood Cliffs, NJ: Prentice Hall, 1975.

Zackler, J. & Brandstadt, W. (Eds.) The teenage pregnant girl. Springfield, IL: Charles C. Thomas, 1975.

Zelnik, M. & Kantner, J. F. Sexual and contraceptive experience of young unmarried women in the United States, 1976 and 1971. Family Planning Perspectives, March-April, 1977, 9(2), 55-73.